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ABSTRACT

A study was designed to identify patterns or relationships among test items used to measure teacher stress and develop a measure of teacher stress using a Likert-type scale. The subjects of the study were 89 experienced elementary and secondary school teachers, who rated 50 items related to events in a classroom situation or school setting, using 7 stress levels, from no stress to minimal, mild, moderate, severe, extreme, and catastrophic stress. Responses were correlated and then factor analyzed using a principal components factor analysis and a varimax orthogonal rotation. No items had an average rating of extreme or catastrophic stress. Eleven factors were identified in the principal component factor analysis, one of which related to student cheating and accounted for 59.3 percent of the variance. The major conclusion from the findings was that the primary general factor related to stress was the behavior of students in the classroom. Two other important factors were teachers' relationships in the school and union activities and deviant behavior of students in the school. (FG)

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PERCEIVED STRESS EVENTS BY TEACHERS

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Perceived Stress Events by Teachers

Stress has been receiving considerable attention in society today. The impact of stress on people in their specific vocational pursuits and upon everyone in whatever environmental setting has been linked to low quality life, early vocational burnout, and in many instances to physiological illness. Especially in the teaching profession, stress has been taking an inordinate toll among teachers and administrators. After validating the Maslach Burnout Inventory for use with teachers (Iwanicki and Schwab, 1981), these authors have continued their research with teachers and have shown role conflict and ambiguity are related to teacher burnout (Schwab and Iwanicki, 1982) and that age accounted for much of the variance among teachers on the emotional exhaustion subscale, that sex, grade level taught, and age accounted for much of the variance among teachers on the depersonalization subscale, and that grade level taught accounted for much of the variance on the personal accomplishment subscale (Schwab and Iwanicki, 1981). Schwab (1982) has suggested that prevention of teacher burnout is one of the most significant challenges for education in the 1980's.

The research on teacher burnout has been one focus of study on teacher stress. Other approaches have produced an increasing number of articles in the literature that have endeavored to discover sources of teacher stress (Needle, Griffin, Svendsen, and Birney, 1980), (Kyriacou and Sutcliffe, 1978), (Pratt, 1978), and (Cichon and Koff, 1980), that have identified the effects of stress on teaching and suggested ways to handle stress (Styles and Cavanaugh, 1977), (Youngs, 1978), and (Leffingwell, 1979), that have linked teacher stress and job satisfaction (Kyriacou and Sutcliffe, 1978), and that have reviewed the topic area (Coates and Thoresen, 1976) and (Kyriacou and Sutcliffe, 1977). One conclusion derived by Kyriacou and Sutcliffe (1977) from their review of teacher stress was that

stress is a multi-factored construct and, therefore, research is necessary to discern patterns of relationships among factors which contribute to stress for teachers. Another concern has been related to the measurement of stress. Cichon and Koff (1980) adapted the Holmes and Rahe (1967) life events scale to develop the Teaching Events Stress Inventory. Each of 36 events was compared to a perceived standard of stress felt during the first day of school. They found that teachers perceived events related to stress and their occupation in similar ways regardless of the subgroup included in their study.

This study was undertaken to address both issues: 1. ascertain patterns or relationships among items used to measure teacher stress and 2. develop a measure of teacher stress using a Likert type scale.

Method

Subjects. The subjects for this study were 89 elementary and secondary public school teachers who were mostly employed by a rural school district and a few from a suburban school district. The teachers were predominantly white and experienced with several years in the profession.

Instrument. Teachers were asked to respond to fifty items related to events in a classroom situation or school setting. The teachers responded to each item on a Likert type scale from one to seven. Each interval on the scale was defined using the APA rating of severity of psychological stressors. An example of one item is: You catch a student cheating. A rating of one on this item indicated no stress while a rating of seven indicated catastrophic stress. The directions given to the teachers were as follows:

> On a scale of one to seven rate the following items for severity of stress on you as a teacher. A rating of one means no stress. Two means minimal stress. Three means mild stress. Four means moderate stress. Five means severe stress. Six means extreme stress. Seven means catastrophic stress. For each item circle the number that is closest to the stress level you would feel when you experience or have experienced the event.

Procedure. All teachers were administered the Rating Scale for School Related Stresses.[1] After each rating scale was scored, means and standard deviations were determined for each of the fifty items. All items were correlated and then factor analyzed using a principal components factor analysis and a varimax orthogonal rotation.

Results.

The responses of the teachers were scored and the means and standard deviations for each of the items on the rating scale are shown in Table 1. The mean for each

Insert Table 1 about here

item ranged from a low stress indicator of 2.15 to a high stress indicator of 5.70. The standard deviations ranged from a low of 1.02 to a high of 1.67. The item with the lowest amount of stress indicated by teachers' perceptions was: A student vomits in your classroom. The item with the highest amount of stress was: You are informed that your services will no longer be needed in your school district. There were 9 items related to minimal stress, 29 items related to mild stress, 9 items related to moderate stress, and 3 items related to severe stress. The nine items perceived by teachers as no stress and the three items perceived as severe stress are shown

Insert Table 2 about here

in Table 2. There were no items rated on the average as extreme stress or

1 A copy of the instrument can be obtained from its author, Dean L. Meinke The University of Toledo, Toledo, Ohio 43606

catastrophic stress. Interitem correlations ranged from a high correlation of .77 to a low correlation of -.01. Although there were 11 factors identified in the principal component factor analysis, the first factor accounted for most of the variance, that is, 59.3 per cent of the variance. The Eigen values and the respective variance accounted for by each factor are shown in Table 3.

Insert Table 3 about here

Only the first three factors had eigen values greater than 2.

The principal factor that accounts for a significant amount of the variance is comprised of ten items with correlations of .5 or greater after a varimax rotation of the factor matrix. The ten items for the first factor are shown in Table 4.

Insert Table 4 about here

All of these items relate to behaviors of students in the teacher's classroom with the one exception in which the teacher must assign low grades to good students. This factor is comprised principally of items rated at a mild level of stress. Three items (1, 10, and 11) were rated as minimally stressful; six items (3, 4, 6, 7, 15, and 27) were rated as mildly stressful; and one item (8) was rated as moderately stressful. It appears that teachers are concerned about student behaviors in their classroom but that these concerns are only mildly stressful. If one chooses to view this as a primary general factor, the highest correlations were found for those items related to specific behaviors of students in the classroom.

The second factor accounted for 7.5 per cent of the variance. There were eight items with correlations of .5 or greater. One item (2) was perceived as minimally stressful; four items (17, 21, 24, and 25) were rated as mildly stressful, two items (31 and 35) were perceived as moderately stressful; and one item (32) was rated as severely stressful. This factor appears to be related to events that impact on the life of the teacher. Some of them are job related but two of them are life events unrelated to school activities. The item with the highest correlation coefficient (.75) for this factor was the one related to the receipt of a traffic ticket. The items rated as most stressful on this factor were related to job security and union activities.

The third factor accounting for 6.1 per cent of the variance was made up of three items with correlations of .5 or greater. The three items were rated as minimally stressful for item 19 and mildly stressful for items 30 and 44. All of these items are related to deviant behaviors of the students such as smoking, drinking, or using drugs in the school.

Discussion

This study is important because it provides a way to measure stress related to the teacher functioning in a school setting. It provides another approach to identify and examine factors related to teacher stress. There is marked similarity among items identified as clusters by Cichon and Koff (1980) and items on this test. The major conclusion from this study is that there is one primary general factor related to the construct of stress. The major factor is related principally to behaviors of students in the classroom. This findings is consistent with Cichon and Koff's (1980) finding of a cluster of items related to managing disruptive children and being the target of verbal abuse. This factor accounted for more than half of the variance and may be interpreted to be related to the

maintenance of discipline in the classroom. Although Kyriacou and Sutcliffe (1977) conclude from their review of studies of teacher stress that discipline was not a primary source of teacher stress, this appears to be the major factor in this study. However, it is important to recall that the items that constitute the highest correlations on this factor were rated predominately as mildly or minimally stressful by the teachers.

The second factor is related to events that impact upon the teacher's life both in and out of school. This factor is similar to the second cluster found by Cichon and Koff (1980) which they called management tension. The items related to transfer to another school and union activities on the rating scale used in the present study are closely related to some of the items in their cluster. The fact that items on this cluster were perceived as more stressful as a whole than either of the other factors can be viewed as reflecting the potency of life events as a measure of stress which has been developed by Holmes and Rake (1967).

The third factor is related to deviant behaviors of students in the school. This may be related to severe discipline problems in the school but the items were viewed only as mildly stressful by the teachers. Perhaps they are not viewed as highly stressful incidents because teachers can refer the case to an administrator for the appropriate action.

Finally, it is interesting to note that on factor II there is only one item that has a correlation greater than .5. This item is related to the teacher being told that he/she does not handle discipline well. Teachers perceive this item as moderately stressful.

The factors that have emerged from this the analysis of responses of teachers to items on this rating scale are primarily related to discipline problems in the school. The items related to classroom discipline problems are clustered in the

first factor, the third factor, and one item significantly in the eleventh factor. Interesting enough these items in the first two factors are not rated highly stressful but yet account for most of the variance. It may be that teachers who are successful in their classroom management are not threatened be minor disruptions and feel secure and confident in their ability to handle these situations when they occur. On the other hand less experienced teachers or those who experienced discipline problems in their classrooms might perceive these items as more stressful. This would be an interesting study to pursue using this instrument. Another possible study would be to compare responses of teachers on this rating scale with their responses on the Maslach Burnout Inventory. Obviously, there is much more research to be done in this area and this instrument needs to be used with more teachers in a variety of settings.

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Table 1. Means and Standard Deviations for Each Item on the Rating Scale for School Related Stresses

Item	Mean	SD	Item	Mean	SD
1	2.94	1.08	26	3.47	1.27
2	2.46	1.13	27	3.54	1.25
3	3.63	1.20	28	3.02	1.18
4	3.74	1.17	29	3.67	1.24
5	3.51	1.42	30	3.69	1.36
6	3.71	1.13	31	4.63	1.63
7	3.54	1.28	32	5.70	1.40
8	4.44	1.32	33	5.28	1.38
9	3.10	1.38	34	3.15	1.16
10	2.97	1.10	35	4.65	1.67
11	2.80	1.27	36	4.62	1.34
12	3.51	1.49	37	5.09	1.40
13	3.21	1.50	38	3.61	1.32
14	4.06	1.35	39	3.34	1.20
15	3.56	1.21	40	2.94	1.49
16	4.20	1.67	41	3.67	1.40
17	3.88	1.63	42	3.70	1.56
18	3.40	1.35	43	2.98	1.13
19	2.94	1.25	44	3.52	1.24
20	2.15	1.02	45	4.45	1.53
21	3.60	1.34	46	3.27	1.38
22	3.67	1.31	47	3.74	1.56
23	2.71	1.34	48	4.04	1.33
24	3.53	1.45	49	4.62	1.43
25	3.74	1.43	50	3.76	1.24

Table 2. Items Which Were Perceived as Minimal Stress and Those Perceived as Severe Stress

Minimal Stress Items	Severe Stress Items
1. You catch a student cheating.	32. You are informed that your services will no longer be needed in your school district.
2. You are late for a scheduled faculty meeting.	
10. Several students are whispering and laughing during your classroom presentation.	33. A student brings false charges against you.
11. Several of your good students must be assigned low grades for poor performance.	37. A student is seriously hurt as a result of your class presentation.
19. You catch several good students smoking in the school.	
20. A student vomits in your classroom.	
23. A student tape records all of your presentations.	
40. You are told that you must change to team teaching for all of your classes.	
43. Students complain that you do not turn them on.	

Table 3. Eigen Values and Per Cent of Variance Accounted for by Each of Eleven Factors

Factor	Eigen Value	Per Cent of Variance
1	19.84	59.3
2	2.52	7.5
3	2.04	6.1
4	1.76	5.2
5	1.58	4.7
6	1.23	3.7
7	1.12	3.4
8	1.04	3.1
9	.81	2.4
10	.79	2.4
11	.74	2.2

Table 4. Items with Correlations of .5 or Greater for Each of the Primary Factors

Factor	Item
Factor One - Student Classroom Behaviors	1. You catch a student cheating.
	3. A student talks back to you
	4. Many of your students do not pay attention to you.
	6. Several students are exhibiting disruptive behavior in your classroom.
	7. You catch a student lying to you.
	8. A student calls you obscene names.
	10. Several students are whispering and laughing during your classroom presentation.
	11. Several of your good students must be assigned low grades for poor performance.
	15. A student betrays your trust.
	27. You have caught a student stealing.
Factor Two - Events Impacting On the Teacher	2. You are late for a scheduled faculty meeting.
	17. You are informed that you are being transferred to a poorer quality school in your school district.
	21. You received a traffic ticket on the way to school.
	24. A student has an epileptic seizure in your classroom.
	25. You are having difficulty with your spouse or significant other person during the evening before today.
	31. The teachers are going out on strike.
	32. You are informed that your services will no longer be needed in your school district.
	35. You crossed a teacher's picket line in order to teach your classes.
Factor Three - Student Deviant Behaviors in the School	19. You catch several good students smoking in the school.
	30. You find a group of students smoking marijuana.
	44. You observe several good students drinking alcohol in the school.